



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/854,379

05/11/2001

Shahzad Ali

005043.P016

8629

7590

06/30/2005

Michael J. Mallie
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Seventh Floor
12400 Wilshire Boulevard
Los Angeles, CA 90025-1026

EXAMINER

HABTE, ZEWDU

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/854,379

Applicant(s)

ALI ET AL.

Examiner

Zewdu Habte

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8, 11, 16, 19, 24 and 27 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 10, 12-15, 17, 18, 20-23, 25 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/27/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, 5, 12, 13, 20 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al. (5305310) in view of Ganmukhi et al. (5850399).

As to claims 1, 4, 12 and 20 Itoh discloses a system comprising:
a switch fabric (Fig.1), and
an egress coupled with the switch fabric (Fig. 1 @101) to:

initiate a first packet selection process at a first time slot (col. 4, lines 35-67, first the plurality of packets entered into the packet switching system are inputted to the sorting system; col. 4, lines 19-22, ...a timing pulse 1 12, a first time slot, Fig. 1 @ 1 12),

initiate a second packet selection process at a second time slot immediately following the first time slot such that execution of the second packet selection process overlaps execution of the first packet selection process at different levels of a scheduling hierarchy (col. 3, lines 14-17, on the other hand, ...the packets P1 and P3 are competing with each other in Sorting Module 12 and packet P3 has a priority; col. 4, lines 19-22, ...a timing pulse 115, second time slot, but the process to forward packets P1 and P3 to Sorting Module 12 started at the first time slot when the decision process began by Dropping Circuit 4 in Sorting Module 11) ...;

select a first packet at a third time slot in response to the first packet selection process (col. 3, lines 30-34, the kept packet is output to n-data lines 103; col. 4, lines 19-22, ... a timing pulse 1 13, third time slot, Fig. 1 @ 113); and

select a second packet at a fourth time slot in response to the second packet selection process, the fourth time slot immediately following the third time slot (col. 3, lines 30-34, the kept packet is output to n-data lines 103., col. 4, lines 19-22, ... a timing pulse before the routing circuit 5 in module 12, the fourth time slot; this is the same reasoning used above for module 11, except this time it is used for module 12; the timing slot before sorting circuit 3 is the second time slot 115; then the pulse before dropping circuit 4 is the third time slot, and the pulse before routing circuit 5 is the fourth time slot and the second packet P3 is selected there), but Itoh does not specifically disclose each level of the scheduling hierarchy corresponding to a priority level associated with an egress queue that receives packets, wherein the priority level is determined based on a contracted rate of the egress queue. Ganmukhi teaches a hierarchical scheduler 10 as illustrated in Fig. 1. According to Ganmukhi, input 15 includes a plurality of sessions (hierarchy) that have different operating characteristics, see Fig. 1 at 12, 14, 16, 18, 23 and 24 [col. 3, lines 1-9]. These sessions are grouped according to the quality of service, for example the first group includes packets that require Constant Bit Rate (first level of scheduling hierarchy), the second group includes packets that require real time Variable Bit Rate (second level of scheduling hierarchy), etc. Input queues associated with the first level of scheduling hierarchy include six types of schedulers according to packets' quality of service as depicted in Fig. 1.

Art Unit: 2661

Scheduler 20 is for packets with constant bit rate, scheduler 30 is for packets with real time variable bit rate, etc.... Packets scheduled in CBR shaper 20 are sensitive to delay and are forwarded to priority scheduler 90 (a priority level associated and determined based on a contracted rate) [col. 4, lines 8-42]. In view of this, it would have been obvious to one of ordinary skill in the art to combine Itoh's packet selecting method and Ganmukhi's teaching of hierarchical packet scheduling according to packet's bit rate, in order to maintain guaranteed quality of service.

As to claims 2, 5, 13 and 21 Itoh discloses the method of claim 1, where the packet is selected based on an arrival time of the packet at the egress queue and a departure time of a previous packet at the egress queue from the same flow that the packet belongs, (as illustrated in Fig. 5, after packet arrival is detected in step S9, packets are stored in FIFO buffer, which means as the first packet is leaving the buffer, in the mean time the second packet gets buffered).

Response to Amendment

3. Applicant's arguments with respect to claims 1, 4, 12 and 20 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

Claims 8, 11, 16, 19, 24 and 27 are allowed for reasons given in the previous action.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zewdu Habte whose telephone number is 571-272-3115. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zewdu Habte (Zed)

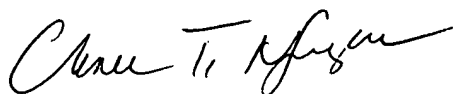
Application/Control Number: 09/854,379

Page 6

Art Unit: 2661

Examiner
Art Unit 2661

ZA



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600